

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Barclay et al.

EXPRESS MAIL LABEL NO. EL 931636088US

FOR: POLYMERS CONTAINING OXYGEN AND SULFUR ALICYCLIC
UNITS AND PHOTORESIST COMPOSITIONS COMPRISING SAME

THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, DC 20231

SIR:

PRELIMINARY AMENDMENT

Applicants file herewith the above-identified application. Please amend the application as follows.

IN THE SPECIFICATION

The present application is a continuation of International Application no. PCT/US01/14914 filed May 8, 2001, which is a continuation of U.S. application no. 09/567,634, filed May 9, 2000, both of which applications are incorporated herein by reference.

IN THE CLAIMS

Please cancel without prejudice claims 6, 7, 9-12, 14-22, 28-34, 36-40, and 42-45.

4. (amended) The photoresist of claim 1 wherein the carbon alicyclic group is a polymerized norbornene group.

5. (amended) The photoresist of claim 1 wherein the heteroalicyclic group has a non-hydrogen ring substituent.

8. (amended) The photoresist of claim 1 wherein the polymer comprises a polymerized acrylate that comprises a photoacid-labile moiety.

13. (amended) The photoresist of claim 1 wherein the heteroalicyclic group fused to the polymer backbone is not an anhydride or lactone.

23. (amended) The photoresist of claim 1 wherein the polymer is a tetrapolymer or a pentapolymer.

24. (amended) The photoresist of claim 1 wherein the polymer is completely free of aromatic groups.

35. (amended) A method of forming a positive photoresist relief image, comprising:

- (a) applying a coating layer of a photoresist of claim 1 on a substrate; and
- (b) exposing and developing the photoresist layer to yield a relief image.

41. (amended) An article of manufacture comprising a microelectronic wafer substrate or flat panel display substrate having coated thereon a layer of the photoresist composition of claim 1.

REMARKS

Applicants file herewith a continuation application. The specification has been amended to include the priority claim for the application. For the sole purpose of reducing initial filing fees, claims 6, 7, 9-12, 14-22, 28-34, 36-40, and 42-45 have been cancelled without prejudice, and claims 4, 5, 8, 13, 23, 24, 35 and 41 have been amended. No new matter has been added by virtue of the amendments.

An Information Disclosure Statement will be submitted under separate cover.

Early consideration and allowance of the application are earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'PC' with a long horizontal stroke extending to the right.

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MARKED VERSION TO SHOW CHANGES

4. (amended) The photoresist of claim 1 [any one of claims 1 through 3] wherein the carbon alicyclic group is a polymerized norbornene group.

5. (amended) The photoresist of claim 1 [any one of claims 1 through 4] wherein the heteroalicyclic group has a non-hydrogen ring substituent.

8. (amended) The photoresist of claim 1 [claim 7] wherein the polymer comprises a polymerized acrylate that comprises a photoacid-labile moiety.

13. (amended) The photoresist of claim 1 [any one of claims 1 through 11] wherein the heteroalicyclic group fused to the polymer backbone is not an anhydride or lactone.

23. (amended) The photoresist of claim 1 [any one of claims 1 through 22] wherein the polymer is a tetrapolymer or a pentapolymer.

24. (amended) The photoresist of claim 1 [any one of claims 1 through 23] wherein the polymer is completely free of aromatic groups.

35. (amended) A method of forming a positive photoresist relief image, comprising:

(a) applying a coating layer of a photoresist of claim 1 [any one of claims 1 through 24] on a substrate; and

(b) exposing and developing the photoresist layer to yield a relief image.

41. (amended) An article of manufacture comprising a microelectronic wafer substrate or flat panel display substrate having coated thereon a layer of the photoresist composition of claim 1 [any one of claims 1 through 24].

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